

We Claim

1. An accessory for connecting in between a urinary catheter and a leg bag comprising
  - (A) a sleeve having an upper end and a lower end;
  - (B) connectors for connecting the upper end of said sleeve to said urinary catheter and the lower end of said sleeve to said leg bag;
  - (C) a filter within said sleeve that comprises compounded polymeric resin and an antimicrobial composition; and
  - (D) a valve within said sleeve at said upper end for impeding the flow of fluid from said accessory into said urinary catheter.
2. An accessory according to Claim 1 wherein said sleeve is a natural rubber or a synthetic polymer.
3. An accessory according to Claim 2 wherein said sleeve is a continuous part of the leg bag or the catheter.
4. An accessory according to Claim 1 wherein said sleeve is about 0.1 to about 36 inches long and about 0.2 to about 1 inch in diameter.
5. An accessory according to Claim 1 wherein the inside surface of said sleeve is coated with an antimicrobial coating.

6. An accessory according to Claim 1 wherein said connectors are thermally welded or adhesively bonded to said sleeve.
7. An accessory according to Claim 1 wherein said filter is extruded.
8. An accessory according to Claim 1 wherein said filter is a bundle of separate tubes.
9. An accessory according to Claim 1 wherein said filter has a star-shaped configuration.
10. An accessory according to Claim 1 wherein said filter has a multiluminal configuration.
11. An accessory according to Claim 1 wherein said filter has a folded configuration.
12. An accessory according to Claim 1 wherein said valve occupies a space above said filter.
13. An accessory according to Claim 1 wherein said polymeric resin is selected from the group consisting of polyurethanes, polyurethane sponges, styrene-butadiene based polymers, their blends or copolymers or derivatives, and silicone, or blends or and its copolymers.

14. An accessory according to Claim 1 wherein said polymeric resin has a particle  
25 size of about 0.01 to about 3 mm in diameter.
15. An accessory according to Claim 1 wherein about 70 to about 90 wt% of said  
polymeric resin is compounded with about 10 to about 30 wt% of said  
antimicrobial composition.
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16. An accessory according to Claim 1 wherein said polymeric resin is  
selected from a group comprising common plastics, polymer resins, including  
inorganic/organic hybrid materials, carbon and other high area filled materials  
such as nanocomposites, superabsorbent polymers, hydrogels, biodegradable and  
35 natural polymeric materials such as cellulose or sponges and synthetic sponges.
17. An accessory according to Claim 1 wherein said antimicrobial composition  
comprises
- (A) about 60 to about 100 wt% of an antimicrobial material;
- 40 (B) 0 to about 25 wt% of a calcium chelator;
- (C) 0 to about 0.25 wt% of a pigment; and
- (D) 0 to about 3 wt% of a lubricant;
- 45 18. An accessory according to Claim 1 wherein said antimicrobial composition  
comprises
- (A) about 30 to about 60 wt% of a bactericide selected from the group  
consisting nanosize particles of silver, nanosize particles of silver with 2.5

- wt% copper, silver citrate, silver acetate, silver benzoate, bismuth  
50 salicylate, bismuth pyrithione, zinc pyrithione, , bismuth salts, parabenzoic  
acid ester, citric acid, sodium pyrithione, and mixtures thereof;
- (B) about 20 to about 30 wt% of a calcium chelator selected from the group  
consisting of ethylene diamine tetraacetic acid, citric acid,  
hydroxyethylidene phosphonic acid, polyvinylphosphonic acid,  
55 polyvinylsulfonate, poly acrylic acid, aminophosphonic acids, and  
mixtures thereof;
- (D) about 0.005 to about 0.01 wt% copper phthalocyanine; and
- (E) about 2 to about 3 wt% of a lubricant selected from the group consisting of  
polyethylene oxide, polyvinylpyrrolidone, polyacrylic acid polyvinyl  
60 alcohol, and derivatives and mixtures thereof.

19. An accessory for connecting a leg bag to a urinary catheter comprising
- (A) a flexible plastic sleeve having an upper end and a lower end;
- 65 (B) plastic connectors for connecting the upper end of said sleeve to said  
urinary catheter and the lower end of said sleeve to said leg bag;
- (C) a filter within said sleeve having a zone of inhibition that includes all  
passages therethrough and therearound, where said filter comprises a  
compounded mixture of
- 70 (1) about 60 to about 90 wt% polymeric resin powder; and
- (2) about 10 to about 40 wt% of a antimicrobial composition that  
comprises
- (a) about 35- 67% of an antimicrobial for bacteria and fungi;

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- (b) about 14 to about 29 wt% of a calcium chelator;
  - (c) about 0.05 to about 0.1 wt% of a pigment; and
  - (d) about 2 to about 3 wt% of a lubricant; and
- (D) a valve within said sleeve at said upper end for impeding the flow of fluid out of said accessory and into said urinary catheter.

80 20. An accessory for connecting in between a leg bag and a urinary catheter comprising

- (A) a plastic sleeve having an upper end and a lower end;
- (B) a first plastic connector thermally welded to the upper end of said sleeve for connecting said sleeve to said urinary catheter and a second plastic  
85 connector thermally welded to the lower end of said sleeve for connecting said sleeve to said leg bag;
- (C) a filter occupying the space within said sleeve except near said upper end of said sleeve and having a zone of inhibition that includes all passages therethrough and therearound, where said filter comprises an extruded,  
90 molded, or shaped material that comprises
  - (1) about 70 to about 90 wt% polymeric resin powder selected from the group consisting of styrene-butadiene hybrids, polyurethanes, copolymers and hybrids thereof, silicones and hybrids, cellulose powder, hydrogels such as polyacrylates, polyoxazoline, alginates,  
95 p-hema, ( polyhydroxy ethyl acrylate) polyvinylalcohol and its copolymers, and mixtures thereof; and

(2) about 10 to about 30 wt% a antimicrobial composition that comprises

- (a) about 10 to about 25 wt% silver citrate;
- (b) about 5 to about 8 wt% nanosilver containing about 2.5 wt% copper;
- (c) about 20 to about 35 wt % butyl paraben;
- (d) about 10 to about 25 wt% citric acid;
- (e) about 0.1 to about 0.25 wt% copper phthalocyanine; and
- (f) about 4 to about 5 wt% ethylene diamine tetraacetic acid; and
- (g) about 2 to about 3 wt% polyethylene oxide; and

(D) a duck bill check valve within said sleeve at said upper end for impeding the flow of fluid out of said accessory and into said urinary catheter.

21. An antimicrobial composition comprising

- (A) about 60 to about 100 wt% of an antimicrobial material;
- (B) 0.01 to about 25 wt% of a calcium chelator;
- (C) 0.01 to about 0.25 wt% of a pigment; and
- (D) 0.01 to about 3 wt% of a lubricant;